DUKE ENERGY PROGRESS, LLC

Energy Credits
Variable Rate
Distribution
Based on 2020 -2021 Costs
Cents per KWH

	1_DEP_Summer _Prem-Peak	2_DEP_Summer _PM-Peak	3_DEP_Summer _OffPeak	4_DEP_Winter _ Prem-Peak	5_DEP_Winter _ AM-Peak	6_DEP_Winter _ PM-Peak	7_DEP_Winter _ OffPeak	8_DEP_Shoulder _Peak	9_DEP_Shoulder _OffPeak
	(Cents/KWH)	(Cents/KWH)	(Cents/KWH)	(Cents/KWH)	(Cents/KWH)	(Cents/KWH)	(Cents/KWH)	(Cents/KWH)	(Cents/KWH)
1. Avoided Energy Cost (Note 1)	2.95	2.50	2.43	2.91	3.84	2.98	2.47	2.58	1.98
2. Working Capital Factor (Note 2)	1.0153	1.0153	1.0153	1.0153	$1.01530	1.0153	1.0153	1.0153	1.0153
3. Marginal Loss Factor (Note 3)	1.0263	1.0255	1.0145	1.0245	$1.01758	1.0190	1.0142	1.0126	1.0097
4. SC Generating Excise Tax	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
5. Energy Credits (L1*L2*L3)+L4	3.12	2.65	2.55	3.08	4.01	3.14	2.60	2.70	2.08

Energy Credits
5 Year Fixed Rates
Distribution
Based on 2020-2024 Costs
Cents per KWH

	1_DEP_Summer _Prem-Peak	2_DEP_Summer _PM-Peak	3_DEP_Summer _OffPeak	4_DEP_Winter _ Prem-Peak	5_DEP_Winter _ AM-Peak	6_DEP_Winter _ PM-Peak	7_DEP_Winter _ OffPeak	8_DEP_Shoulder _Peak	9_DEP_Shoulder _OffPeak
	(Cents/KWH)	(Cents/KWH)	(Cents/KWH)	(Cents/KWH)	(Cents/KWH)	(Cents/KWH)	(Cents/KWH)	(Cents/KWH)	(Cents/KWH)
1. Avoided Energy Cost (Note 1)	$2.90	$2.77	$2.38	$2.56	$3.34	$3.01	$2.49	$2.68	$2.01
2. Working Capital Factor (Note 2)	1.0153	1.0153	1.0153	1.0153	1.0153	1.0153	1.0153	1.0153	1.0153
3. Marginal Loss Factor (Note 3)	1.0263	1.0255	1.0145	1.0245	1.0176	1.0190	1.0142	1.0126	1.0097
4. SC Generating Excise Tax	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
5. Energy Credits (L1*L2*L3)+L4	3.07	2.93	2.51	2.71	3.50	3.16	2.62	2.81	2.11

Energy Credits
10 Year Fixed Rates
Distribution
Based on 2020-2029 Costs
Cents per KWH

	1_DEP_Summer _Prem-Peak	2_DEP_Summer _PM-Peak	3_DEP_Summer _OffPeak	4_DEP_Winter _ Prem-Peak	5_DEP_Winter _ AM-Peak	6_DEP_Winter _ PM-Peak	7_DEP_Winter _ OffPeak	8_DEP_Shoulder _Peak	9_DEP_Shoulder _OffPeak
	(Cents/KWH)	(Cents/KWH)	(Cents/KWH)	(Cents/KWH)	(Cents/KWH)	(Cents/KWH)	(Cents/KWH)	(Cents/KWH)	(Cents/KWH)
1. Avoided Energy Cost (Note 1)	$3.12	$2.94	$2.56	$3.39	$3.38	$3.26	$2.62	$2.85	$2.16
2. Working Capital Factor (Note 2)	1.0153	1.0153	1.0153	1.0153	1.0153	1.0153	1.0153	1.0153	$1.02
3. Marginal Loss Factor (Note 3)	1.0263	1.0255	1.0145	1.0245	1.0176	1.0190	1.0142	1.0126	$1.01
4. SC Generating Excise Tax	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
5. Energy Credits (L1*L2*L3)+L4	3.30	3.11	2.68	3.58	3.54	3.42	2.75	2.98	2.26

Notes
1. From Page 3
2. From Page 9
3. Marginal Loss Factor = 1 / (1 - %)

Based on marginal % losses of: Applies to:	Distribution level Interconnections Transmission Losses (Incl Step Up and Step down Transformer)	Transmission level Interconnections Step Up Transformer Losses
1 DEP Summer Prem-Peak	2.565%	0.171%
2_DEP_Summer_PM-Peak	2.491%	0.166%
3_DEP_Summer_OffPeak	1.433%	0.095%
4 DEP Winter Prem-Peak	2.388%	0.159%
5_DEP_Winter_AM-Peak	1.728%	0.115%
6_DEP_Winter_PM-Peak	1.861%	0.124%
7_DEP_Winter_OffPeak	1.401%	0.093%
8 DEP Shoulder Peak	1.248%	0.083%
9_DEP_Shoulder_OffPeak	0.960%	0.064%

DUKE ENERGY PROGRESS, LLC

Energy Credits
Variable Rate
Transmission
Based on 2020 -2021 Costs
Cents per KWH

	1_DEP_Summer _Prem-Peak	2_DEP_Summer _PM-Peak	3_DEP_Summer _OffPeak	4_DEP_Winter _ Prem-Peak	5_DEP_Winter _ AM-Peak	6_DEP_Winter _ PM-Peak	7_DEP_Winter _ OffPeak	8_DEP_Shoulder _Peak	9_DEP_Shoulder _OffPeak
	(Cents/KWH)	(Cents/KWH)	(Cents/KWH)	(Cents/KWH)	(Cents/KWH)	(Cents/KWH)	(Cents/KWH)	(Cents/KWH)	(Cents/KWH)
1. Avoided Energy Cost (Note 1)	$2.95	$2.50	$2.43	$2.91	$3.84	$2.98	$2.47	$2.58	$1.98
2. Working Capital Factor (Note 2)	1.0153	1.0153	1.0153	1.0153	1.0153	1.0153	1.0153	1.0153	1.0153
3. Marginal Loss Factor (Note 3)	1.0017	1.0017	1.0010	1.0016	1.0011	1.0012	1.0009	1.0008	1.0006
4. SC Generating Excise Tax	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
5. Energy Credits (L1*L2*L3)+L4	3.05	2.59	2.52	3.01	3.95	3.08	2.56	2.67	2.06

Energy Credits
5 Year Fixed Rates
Transmission
Based on 2020-2024 Costs
Cents per KWH

	1_DEP_Summer _Prem-Peak	2_DEP_Summer _PM-Peak	3_DEP_Summer _OffPeak	4_DEP_Winter _ Prem-Peak	5_DEP_Winter _ AM-Peak	6_DEP_Winter _ PM-Peak	7_DEP_Winter _ OffPeak	8_DEP_Shoulder _Peak	9_DEP_Shoulder _OffPeak
	(Cents/KWH)	(Cents/KWH)	(Cents/KWH)	(Cents/KWH)	(Cents/KWH)	(Cents/KWH)	(Cents/KWH)	(Cents/KWH)	(Cents/KWH)
1. Avoided Energy Cost (Note 1)	$2.90	$2.77	$2.38	$2.56	$3.34	$3.01	$2.49	$2.68	$2.01
2. Working Capital Factor (Note 2)	1.0153	1.0153	1.0153	1.0153	1.0153	1.0153	1.0153	1.0153	1.0153
3. Marginal Loss Factor (Note 3)	1.0017	1.0017	1.0010	1.0016	1.0011	1.0012	1.0009	1.0008	1.0006
4. SC Generating Excise Tax	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
5. Energy Credits (L1*L2*L3)+L4	3.00	2.87	2.47	2.65	3.45	3.11	2.58	2.78	2.09

Energy Credits
10 Year Fixed Rates
Transmission
Based on 2020-2029 Costs
Cents per KWH

	1_DEP_Summer _Prem-Peak	2_DEP_Summer _PM-Peak	3_DEP_Summer _OffPeak	4_DEP_Winter _ Prem-Peak	5_DEP_Winter _ AM-Peak	6_DEP_Winter _ PM-Peak	7_DEP_Winter _ OffPeak	8_DEP_Shoulder _Peak	9_DEP_Shoulder _OffPeak
	(Cents/KWH)	(Cents/KWH)	(Cents/KWH)	(Cents/KWH)	(Cents/KWH)	(Cents/KWH)	(Cents/KWH)	(Cents/KWH)	(Cents/KWH)
1. Avoided Energy Cost (Note 1)	$3.12	$2.94	$2.56	$3.39	$3.38	$3.26	$2.62	$2.85	$2.16
2. Working Capital Factor (Note 2)	1.0153	1.0153	1.0153	1.0153	1.0153	1.0153	1.0153	1.0153	1.0153
3. Marginal Loss Factor (Note 3)	1.0017	1.0017	1.0010	1.0016	1.0011	1.0012	1.0009	1.0008	1.0006
4. SC Generating Excise Tax	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
5. Energy Credits (L1*L2*L3)+L4	3.22	3.04	2.65	3.50	3.48	3.36	2.71	2.95	2.24

Notes
1. From Page 3
2. From Page 9
3. Marginal Loss Factor = 1 / (1 - % loss/100)

Based on marginal % losses of: Applies to:	Transmission Losses (Incl Step Up and Step down Transformer) Distribution level Interconnections	Step Up Transformer Losses Transmission level Interconnections
1_DEP_Summer_Prem-Peak	2.565%	0.171%
2_DEP_Summer_PM-Peak	2.491%	0.166%
3_DEP_Summer_OffPeak	1.433%	0.095%
4_DEP_Winter_Prem-Peak	2.388%	0.159%
5_DEP_Winter_AM-Peak	1.728%	0.115%
6_DEP_Winter_PM-Peak	1.861%	0.124%
7_DEP_Winter_OffPeak	1.401%	0.093%
8_DEP_Shoulder_Peak	1.248%	0.083%
9_DEP_Shoulder_OffPeak	0.960%	0.064%

DUKE ENERGY PROGRESS, LLC

Avoided Energy Costs

Year	1_DEP_Summer _Prem-Peak	2_DEP_Summer _PM-Peak	3_DEP_Summer _OffPeak	4_DEP_Winter _ Prem-Peak	5_DEP_Winter _ AM-Peak	6_DEP_Winter _ PM-Peak	7_DEP_Winter _ OffPeak	8_DEP_Shoulder _Peak	9_DEP_Shoulder _OffPeak
	(Cents/KWH)	(Cents/KWH)	(Cents/KWH)	(Cents/KWH)	(Cents/KWH)	(Cents/KWH)	(Cents/KWH)	(Cents/KWH)	(Cents/KWH)
2020	[redacted]								
2021									
2022									
2023									
2024									
2025									
2026									
2027									
2028									
2029									
2 Year Present Value	5.38	4.56	4.44	5.32	7.00	5.44	4.51	4.71	3.62
Levelized Value	2.95	2.50	2.43	2.91	3.84	2.98	2.47	2.58	1.98
5 Year Present Value	12.10	11.56	9.96	10.68	13.95	12.56	10.40	11.20	8.40
Levelized Value	2.90	2.77	2.38	2.56	3.34	3.01	2.49	2.68	2.01
10 Year Present Value	22.59	21.32	18.54	24.60	24.49	23.61	19.00	20.67	15.64
Levelized Value	3.12	2.94	2.56	3.39	3.38	3.26	2.62	2.85	2.16

Notes:
1. Present values and levelized values are derived using a discount rate of 6.32%
2. Energy costs include emission costs
3. Energy Hour definition:

DUKE ENERGY PROGRESS, LLC

Capacity Credits
Variable Rate
Based on 2020 -2021 Costs

	Distribution (Note 6)	Transmission (Note 6)
1. Avoided Capacity Cost Present Value of 2020-2021 (Note 1)	$24,960	$24,510
2. Monthly Avoided Capacity Cost L1 x (A/P) (Note 2)	$1,108	$1,088
3. Annual Avoided Capacity Cost L2 x 12 months	$13,295	$13,055

SEASONAL CREDITS (Note 3)	Summer Months PM	Winter Months AM	Winter Months PM	Summer Months PM	Winter Months AM	Winter Months PM
4. Seasonal Allocation (Note 4)	0%	70%	30%	0%	70%	30%
5. Seasonal Allocation of annual capacity cost L3 x L4	$0	$9,306	$3,988	$0	$9,138	$3,916
6. Rating -MW (Note 5)	237	237	237	237	237	237
7. Seasonal Capacity Credit ($/KW) L5/L6	$0.00	$39.27	$16.83	$0.00	$38.56	$16.52
8. Seasonal Peak Hours	248	363	363	248	363	363
9. Seasonal Capacity Credits (cents/KWH) L7/L8 * 100	0.00	10.82	4.64	0.00	10.62	4.55

Notes

1. From Page 7

2. Ordinary annuity factor where i = 1.0632 ^(1/12)-1)*100 = 0.5121%
   and n = 24 months

3. Capacity Hour Definition:

(Period definitions are stated in terms of hour-ending)

Capacity Hours	DEC			DEP		
		AM Period	PM Period		AM Period	PM Period
	Months	On Peak	On Peak	Months	On Peak	On Peak
Summer	Jul-Aug		17-20	Jul-Aug		17-20
Winter	Dec - Mar	7-9	19-21	Dec - Mar	7-9	19-21

4. Based on LOLH

5. Rating for new combustion turbine

6. $ in 000s except as noted

DUKE ENERGY PROGRESS, LLC

Capacity Credits
5 Year Fixed Long-Term Rate
Based on 2020 -2024 Costs

	Distribution (Note 6)	Transmission (Note 6)
1. Avoided Capacity Cost Present Value of 2020-2024 (Note 1)	$58,212	$57,161
2. Monthly Avoided Capacity Cost L1 x (A/P) (Note 2)	$1,129	$1,109
3. Annual Avoided Capacity Cost L2 x 12 months	$13,552	$13,307

SEASONAL CREDITS (Note 3)	Distribution Summer Months PM	Distribution Winter Months AM	Distribution Winter Months PM	Transmission Summer Months PM	Transmission Winter Months AM	Transmission Winter Months PM
4. Seasonal Allocation (Note 4)	0%	70%	30%	0%	70%	30%
5. Seasonal Allocation of annual capacity cost L3 x L4	$0	$9,486	$4,066	$0	$9,315	$3,992
6. Rating -MW (Note 5)	237	237	237	237	237	237
7. Seasonal Capacity Credit ($/KW) L5/L6	$0.00	$40.03	$17.15	$0.00	$39.30	$16.84
8. Seasonal Peak Hours	248	363	363	248	363	363
9. Seasonal Capacity Credits (cents/KWH) L7/L8 * 100	0.00	11.03	4.73	0.00	10.83	4.64

Notes

1. From Page 7

2. Ordinary annuity factor where i = 1.0632 ^(1/12)-1)*100 = 0.5121%
   and n = 60 months

3. Capacity Hour Definition:

(Period definitions are stated in terms of hour-ending)

Capacity Hours	DEC			DEP		
		AM Period	PM Period		AM Period	PM Period
	Months	On Peak	On Peak	Months	On Peak	On Peak
Summer	Jul-Aug		17-20	Jul-Aug		17-20
Winter	Dec - Mar	7-9	19-21	Dec - Mar	7-9	19-21

4. Based on LOLH

5. Rating for new combustion turbine

6. $ in 000s except as noted

DUKE ENERGY PROGRESS, LLC

Capacity Credits
10 Year Fixed Long-Term Rate
Based on 2020 -2029 Costs

	Distribution (Note 6)	Transmission (Note 6)
1. Avoided Capacity Cost Present Value of 2020-2029 (Note 1)	$104,083	$102,204
2. Monthly Avoided Capacity Cost L1 x (A/P) (Note 2)	$1,163	$1,142
3. Annual Avoided Capacity Cost L2 x 12 months	$13,957	$13,705

SEASONAL CREDITS (Note 3)	Summer Months PM	Winter Months AM	Winter Months PM	Summer Months PM	Winter Months AM	Winter Months PM
4. Seasonal Allocation (Note 4)	0%	70%	30%	0%	70%	30%
5. Seasonal Allocation of annual capacity cost L3 x L4	$0	$9,770	$4,187	$0	$9,594	$4,112
6. Rating -MW (Note 5)	237	237	237	237	237	237
7. Seasonal Capacity Credit ($/KW) L5/L6	$0.00	$41.22	$17.67	$0.00	$40.48	$17.35
8. Seasonal Peak Hours	248	363	363	248	363	363
9. Seasonal Capacity Credits (cents/KWH) L7/L8 * 100	0.00	11.36	4.87	0.00	11.15	4.78

Notes

1. From Page 7

2. Ordinary annuity factor where i = 1.0632 ^(1/12)-1)*100 = 0.5121%
   and n = 120 months

3. Capacity Hour Definition:

(Period definitions are stated in terms of hour-ending)

Capacity Hours	DEC			DEP		
		AM Period	PM Period		AM Period	PM Period
	Months	On Peak	On Peak	Months	On Peak	On Peak
Summer	Jul-Aug		17-20	Jul-Aug		17-20
Winter	Dec - Mar	7-9	19-21	Dec - Mar	7-9	19-21

4. Based on LOLH

5. Rating for new combustion turbine

6. $ in 000s except as noted

DUKE ENERGY PROGRESS, LLC

Annual Avoided Capacity Costs

Year	Distribution: Annual Capacity Cost (2018 $000s)	Distribution: Annual Capacity Cost (Nominal $000s)	Transmission: Annual Capacity Cost (2018 $000s)	Transmission: Annual Capacity Cost (Nominal $000s)	
2020	[redacted]				(Note 3)
2021					
2022					
2023					
2024					
2025					
2026					
2027					
2028					
2029					

2 Year Present Value (Note 2)	$24,960	$24,510
5 Year Present Value (Note 2)	$58,212	$57,161
10 Year Present Value (Note 2)	$104,083	$102,204

Notes

1. Annual Capacity Cost (Nominal $) = Annual Capacity Cost ('19 $) escalated at an annual rate of 1.37%
   Annual escalation starts in 2020
2. Present values are derived using a discount rate of 6.32%
3. Capacity value is included starting with the first year of capacity need

DUKE ENERGY PROGRESS, LLC

Capacity Cost for Determination
of Capacity Credits
Other Generation
(2018 $000s)

	Distribution	Transmission
1. Installed Combustion Turbine Cost (Note 1)	[redacted]	
2. Combustion Turbine Fixed Charge Rate (Note 2)	7.19%	7.19%
3. Annual Combustion Turbine Carrying Cost (L1*L2)	[redacted]	
4. General Plant Factor (Note 4)	2.71%	2.71%
5. Adjusted Annual Combustion Turbine Carrying Cost (L3 + (L3*L4)	[redacted]	
6. Combustion Turbine Fixed O&M Expenses	[redacted]	
7. Working Capital Factor (Note 3)	1.0695	1.0695
8. Subtotal (L5+(L6*L7))	[redacted]	
9. Performance Adjustment Factor	1.05	1.05
10. Marginal Loss Factor (Note 6)	1.0197	1.0013
11. Annual Capacity Cost (L8*L9*L10)	[redacted]	

Notes
1. Cost for new combustion turbine based on EIA data

2. Real levelized carrying charge rates applicable to new combustion turbine installed cost

3. From Page 9

4. From Page 10

5. Distribution:
   Based on marginal % loss of:
   On Peak 1.931% Loss factor = (1/(1 - On Peak loss%))
   Transmission:
   Step-Up Transformer Loss: 0.128% Loss factor = (1/(1 - Step up loss%))

DUKE ENERGY PROGRESS, LLC

Allowance For Working Capital
($ 000)

	2014	2015	2016	2017	2018	Source (Note 4)
1. Materials & Supplies (Production)	$567,607	$639,908	$677,587	$628,022	$588,274	P 227, L7
2. Fuel Stock	$290,169	$312,175	$262,287	$242,761	$220,024	P 227, L1
3. Production O&M	$2,921,077	$2,960,771	$2,691,453	$2,400,718	$2,676,688	P 320-323, L80
4. Burned Fuel Cost And PP (Note 1)	$2,183,088	$1,950,809	$1,774,979	$1,787,420	$2,122,220	pg 320-323, L5,25,45, 63, 76
5. Nonfuel Production O&M (L3-L4)	$737,989	$1,009,962	$916,474	$613,298	$554,468	
6. Nonfuel Related Allowance For Working Capital L1 x 8.22% (Note 2)	$46,654	$52,596	$55,693	$51,619	$48,352	
7. Allowance For Working Capital As a % Of Nonfuel Production O&M L6/L5	6.32%	5.21%	6.08%	8.42%	8.72%	
8. 5 Year Average For Working Capital as a % of Nonfuel Production O&M						6.95%
9. Fuel Related Allowance for Working Capital L2x 8.22% (Note 2)	$23,850	$25,659	$21,558	$19,953	$18,085	
10. Allowance For Working Capital As a % Of Burned Fuel L9/L4	1.09%	1.32%	1.21%	1.12%	0.85%	
11. 5 Year Average For Working Capital as a % of Burned Fuel					1.12%	
12. Weighted Average For Working Capital For Fuel and O&M (Note 3)						1.53%

Notes:

1. Steam Fuel + Nuclear Fuel + Other Fuel + Purchased Power
2. Pre-Tax Rate of Return on Capital
3. Weights Based on Average Breakdown of Avoided Cost Between Fuel and Variable O&M
   Fuel: 93%
   Variable O&M: 7%
   Weighted Average = (Average Line 8 * Variable O&M Weight) + (Average Line 11 * Fuel Weight)
4. Data From FERC Form 1, Annual Issues

DUKE ENERGY PROGRESS, LLC

General / Intangible Plant Loading Factor
($ 000)

Description	2014	2015	2016	2017	2018	Source (Note 2)
1. Electric Plant in Service (Note 1)	20,723,208	23,443,409	26,123,596	27,243,900	28,901,006	P 206-7, L 104-ARO
2. General Plant	639,546	658,514	626,322	668,008	641,694	P 206-7, L 90
3. Intangible Plant	321,918	386,719	408,346	498,613	527,370	P 204-5, L 5
4. Plant in Service Adj for Gen/ Int Plant	$19,761,744	$22,398,176	$25,088,928	$26,077,279	$27,731,942	
Functionalized Plant Balances						
5. Production Demand (Note 1)	12,135,015	14,484,302	16,719,992	17,221,495	18,022,453	P 206-7, L 46
6. Transmission	2,284,365	2,352,701	2,482,661	2,619,582	2,764,725	P 206-7, L 58
7. Distribution	5,342,364	5,561,173	5,886,275	6,236,202	6,944,764	P 206-7, L 75

2017 Unit Cost Functionaliz	General	Intangible	
Production Demand	23%	64%	Unit Cost Analysis for 2017 COS
Transmission	16%	10%	Unit Cost Analysis for 2017 COS
Distribution	18%	12%	Unit Cost Analysis for 2017 COS

Gen / Int Plant Adder (Note 3)	2014	2015	2016	2017	2018	Average
Production Demand	2.92%	2.76%	2.43%	2.75%	2.70%	2.71%
Transmission	5.80%	6.03%	5.59%	5.89%	5.54%	5.77%
Distribution	2.89%	2.98%	2.75%	2.89%	2.57%	2.82%

Notes
1. Values are net of ARO-related balances FF1 pg 206-7 (Lines 15,24,34,44,57,74,98)
2. Data From FERC Form 1, Annual Issues
3. Formula:

(General Plant x General Plant Unit Cost Functionalization %) / Functionalized Plant Balance + (Intangible Plant x Intangible Plant Unit Cost Functionalization %) /(Functionalized Plant Balance)